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ORIGINAL AND SELECTED ARTICLES.

THE CONTINUITY THEORY IN DIPHTHERIA, AND THE PRACTICE OF TEST ABRASIONS.

BY A. F. KINNE, A.M., M.D., MICHIGAN.

I was brought up to believe in the doctrine of Bretonneau—that diphtheria is a local disease—and for the most part always remains so, infecting the system, if at all, only by absorption of putrescent matters from the throat. But at length, four or five years ago, some cases came into my hands, which seemed to upset this "continuity of surface" theory and prepared me for the reception of a different one.

On the 21st of September, 1874, I was called to a farm house, some four miles out, to see L. F——, aged 17, daughter of Mr. A. F——, sick, as the messenger represented, of a "fever and sore throat."

But a little preparation was required for a trip into the country, and before we left my office, the messenger, W. F., a brother of the sick girl, aged 19 years, called my attention to a cut across the back of one of his fingers, which he had got the day before, and which, for so small an affair, was "getting to be very sore." The skin and cellular tissue had been divided by some sharp instrument down to the sheath of the extensor tendon; it was a gaping wound, and nothing had been done to bring the edges together; and the bottom of it was filled with a grayish-white exudation which reminded me of the pseudo-membranous deposits which I had often enough seen in the throat of my patients in

diphtheria. I took an instrument and satisfied myself that it was adhesive, adherent to the bottom and sides of the cut, and was indeed a true diphtheritic inflammation of a clean cut, made some thirty hours before. His throat, which I proceeded at once to explore, was slightly red, but he affirmed that it was not sore and that he was well.

Educated as I had been in a different view, here was a surprise, to me at least, and possibly also a genuine discovery. For the idea that diphtheria must exist as a systemic disease in advance of the appearance of its characteristic lesions in the throat had not then, so far as I know, been demonstrated. The practice of making abrasions or scarifications upon some portion of the cutaneous surface, which this case of mine suggests, for the purpose of determining the existence of diphtheria in the system, in advance of its appearance in the fauces, and in some cases for the purpose also of making an indisputable diagnosis between diphtheria and croup, had not, at that time, so far as my reading goes, made its appearance in medical literature. And the importance of these two great objects will readily be understood and acknowledged by every practitioner. Beyond showing that both of these purposes are entirely feasible and practicable, it will not be needfull here to say another word.

Upon arrival at the farm I found, as I expected, a not severe but an unmistakable case of diphtheria; and upon repeating my visit the next day, three more cases. My messenger with the diphtheritic finger had gone on to develop the full disease; and along with him had fallen sick also two other children, a daughter, S., aged 14, and a son, C., aged 12 years. Thus I had under treatment the entire family, except the father, the mother being dead, all of whom must have taken the disease at about the same time from some common source.

With the etiology of these cases in view, I made a thorough survey of the premises, and can make my report in few words. I found the privy, the drainage of the kitchen, the cellar, the woodhouse, the cistern, the well and the entire surroundings *outside* of the house, in good order. The fault was in the house itself. It was a one-story frame building more than fifty years old; it stood flat upon the ground, and under the dining-room, sitting-room and two bed-rooms there was no cellar, and the unevenness of the floors showed that the foundations were rotten. Bear in mind that the housekeeping was in the hands of a couple of young and motherless girls, and the rest of the picture will not seem strange. Sunlight and air had been carefully excluded by heavy curtains and closed doors; the rag carpets were none too tidy, and the smell of the rooms was close, damp and musty in the extreme.

I am sorry to have to submit so meagre a report as this is upon so interesting and important a theme, for these cases suggest the point, at least, that diphtheria is a systemic disease; that it works in the blood

before its local lesions make their appearance; and that it is possible, and perhaps in some cases practicable, by making abrasions or scarifications, such for instance as we use in vaccinating, to invite the disorder to the surface and gain an important advantage, in point of time, by compelling it to reveal its lurking presence in advance of its regular attack. I should be glad if I could present here some additional cases in which these views had been subjected to the test of actual experiment, but this has been impossible; diphtheria has fought shy of me and of this locality for a number of years, and I can do no better from lack of opportunity.

I must withold my paper altogether, or present it just as it is and leave it for others more favorably situated to supply its deficiencies.

In the *Virginia Medical Monthly* for September, 1876, however, there is a paper from the pen of Dr. George Bayles, one of the visiting physicians of the Northwestern dispensaries of the city of New York, some portion of which will measurably supply what we lack. It will doubtless be recollected by some that this paper was read before the New York State Medical Society, at its meeting in June, 1879, but was excluded from the printed transactions of that body, for the reason that Dr. Bayles had made use and had attributed his success, in part at least, to the use of one of Tilden & Co's proprietary preparations, their "elixir iodo-bromide of calcium compound." But with all this we need have nothing to do. The parts of the paper that subserve our purpose can be open to no sort of objection, and they amount, in brief, to this:

Dr. Bayles reports twenty cases, in all of which he was able to practice the skin abrasions as above indicated, during the incubatory stage of the disease; and in all of the cases but one he succeeded in procuring, at the seat of the test-abrasions, true traumatic patches of diptheritic exudation, in advance of the regular outset of the disease and in advance of the appearance of the characteristic pseudo-membranous deposits in the throat, by a number of hours at least.

And by a corresponding time, of course, he could be, and he was, beforehand in his treatment. There were no cases of doubtful diagnosis; he could not be otherwise than positive. Expectant remedies were therefore out of the question; he could enter at once, in advance of the usual time, upon the use of means known to be eliminative or anti-zymotic, or both perhaps.

If I may judge from my own experience or from the results of my reading, the best opening treatment in a case of diphtheria is to procure, if possible, an elimination of the poison by way of the alimentary canal. This is nothing new, however; I think I may say that this practice is a good deal in vogue upon both sides of the Atlantic. Thus the late Mr. John Scott, as reported by Dr. D. D. Howell in the

Lancet, used to treat these cases with a "scavenger," viz: of calomel, jalap and scammony, after which they usually got well. And Dr. Howell himself gives us emphatic testimony to the value of this abortive kind of treatment. Upon this side of the water I think preference is given to a cathartic dose of calomel alone; I have used myself a powder of calomel and rhubarb. Dr. Bayles reports having begun the treatment of his cases with one "courageous dose" of calomel. To this, more than to all the rest of his remedies together, coupled with the fact that this dose was given some considerable time before the disease was fully developed, is, in my opinion, to be attributed his very great success. His cases all ended in recovery; were shortened from two to four days, and were none of them followed by paralysis or other untoward results. While in the three other visiting districts, during the same year, in the care of men doubtless equally as competent as Dr. Bayles, but who employed the ordinary method of treatment, out of an aggregate of forty-seven cases there were fourteen deaths.

Can any one fail to see that we have here a matter that deserves more attention than it has hitherto received? If a patient has been exposed, or if from any other source the suspicion arises that diphtheria is impending, should we not settle the question, since we seem to have it in our power to do it so easily, and use our antidotes at the earliest possible moment? And should there in any quarter be a disposition to adopt the view of Morell McKenzie and others—that diphtheria and croup are only two different forms of one and the same disease—have we not here the means of showing easily and conclusively that his argument, though an exceedingly able one, is wholly fallacious, and his position an untenable one?

AN ENCAPSULED PLACENTAL TUMOR EXTRACTED FROM THE UTERUS FIVE WEEKS AFTER PARTURITION.

BY H. G. HOBBS, M.D.

I was called in March, 1879, to see Mrs. F—— in great haste, her husband stating that she was flooding. Upon inquiry, after my arrival at her bed side, I found she was five months *enceinte* in her eighth gestation. She had lifted a log in the morning, and since that time there had been a continual but slow oozing of blood, but no pains.

Upon examination I found the os dilated to the size of a silver half-dollar, but so high that I could hardly reach it with my index finger. I could distinctly feel, just within the right margin of the os, the doughy placenta, thus confirming my fears that it was a case of partial placenta prævia. In view of the entire absence of all uterine pains,

and also of the small extent of the laceration of the placental margin, I gave it as my opinion that with absolute rest, together with astringent injections and opium with plumbi acet. internally, the danger of an abortion might be bridged over. I might say, by the way, that I gave fl. ext. viburnum prun.

I heard nothing more from the case till just a month after my first visit I was sent for in haste, her husband stating that the flooding had returned. I found her this time in about the same condition that I had at my previous visit. Upon inquiry I found she had been doing light household duties during the previous three weeks and was feeling well, except considerably weakened; the flooding, she said, had come on quite suddenly and without any pain.

I simply repeated the previous prescription, and at my visit next day the oozing had ceased. She was anemic and weak from loss of blood, so I put her upon a tonic of quinine and iron. There seemed to be a gradual improvement till just one month after her last attack, when I was sent for in haste again. I was absent, and in consequence of the emergency of the case, her husband went for another physician, and left word for me to come immediately upon my return. When I arrived at her bed three or four hours after the beginning of her attack, I found the doctor had delivered her of a 2 pound child. She was almost moribund from loss of blood; radial pulse not perceptible; opened her eyes occasionally with a staring look; pupils dilated; respiration sighing; face palid and suffused with cold perspiration. The doctor told me the placenta had been delivered, and I made no examination. By the cautious use of stimulants and ergot, together with cold applications to the vulva and lower bowels, and hot ones to the extremities, the hemorrhage ceased and the color returned to her face. When I saw her two days afterwards she was doing very well, with the exception of an occasional oozing of arterial blood. I instituted an examination but could find nothing abnormal within the reach of my finger. I left her upon tonic and an antiseptic injection.

I saw her again five weeks after the birth of her child; she had improved but slowly, with still an occasional oozing of blood. Upon examination this time I discovered what seemed to be an encapsuled bipedunculated or cauliflower-shaped tumor attached about an inch within the margin of the os, which was still dilated to the size of a silver dollar. I was not provided with a speculum or instruments suitable for its extraction; was consequently compelled to delay the operation till the next day. I inquired of the doctor if the case had been one of placenta prævia; he said it had not. I then asked him if the placenta had been delivered entire; he told me he thought it had. I possessed no *ecraseur* nor any other instrument suitable for extracting the tumor, but necessity is said to be the mother of invention, and I

improvised a rude *ecraseur* of small wire, and with this little instrument I performed the operation through a speculum.

The little instrument was rudely made by doubling a small wire about two feet in length upon itself; a small loop made in one end of the wire and the other left straight and run through it. By pushing upon the looped end and pulling upon the straight end the fold which had passed through the speculum enlarged, and grasped the tumor; then by a *vice versa* movement the loop decreased and together with traction cut its way through the pedicle. The tumor proved to be a placental mass somewhat larger than a goose's egg encapsuled with a thin membrane.

The stump bled profusely, and having no other styptic at hand I injected dilute tinc. ferri directly against the stump. The speculum was immediately filled with clotted blood, which I left in situ to stop the hemorrhage. I remained with her a couple of hours, then removed the clots and speculum when but a little oozing followed. I introduced a carbolized tampon and left her.

I removed the tampon the next morning and washed out the uterus with carbolized water. She convalesced rapidly and is now in good health. The child lived 36 hours.

My conclusions are that the doctor did not recognize the partial placental presentation probably in consequence of the small size of the child's head to which the placenta gave but little resistance, and he was careless in delivering the placenta or used too much traction upon the cord, and ruptured it at its point of greatest adhesion to the uterine walls.

Septicemia was evidentiy prevented by the astringent and antiseptic injections and perhaps these were the causes of the placental mass becoming encapsuled.

A CASE OF EMPYEMA OR SUPPURATIVE PLEURITIS.

BY F. M. RUSHING, M.D., OF ALABAMA.

On the 6th day of March, 1879, I was summoned to see a little boy aged nearly eight years. On my arrival the father informed me that he had been sick seven weeks, and the attending physician diagnosed the case pleuro-pneumonia. He was very anemic, with humid respiration and considerable dyspnea; pulse 150, and heart beating on right side with all the other symptoms indicating a collection of fluid in the left pleural cavity. I communicated to the father his true condition, and advised thoracentecis (I was not positive as to the nature of the accumulation). The father objected, and desired me to try some other method; I prescribed a purgative with a small quantity of mercury;

a tonic composed of quinine, iron and capsicum, every three hours, and also sprt. nitre and digitalis as a diuretic. On the 9th and 11th I visited the case; he grew gradually worse; I had to prescribe opiates to procure any rest at all. I notified the father I could do nothing more unless he would allow me to operate.

On the 14th I was sent for, and when I arrived the father had left word for me to do whatever I thought best.

There being no place at which the accumulation seemed inclined to point, I punctured the skin between the 5th and 6th ribs, a little back of the median line, and thrust an ordinary trocar into the left pleural cavity. After about a quart of pus had passed out it became so thick it would not run through the canula. Not having a syringe with me to wash out the cavity, I did nothing more.

On the 20th I again punctured the chest at the same point, with the same instrument and drew out nearly half gallon of pus. I injected (through the canula, with a pump syringe), warm water and carbolic acid until the cavity was thoroughly cleansed out. I enlarged the opening with a probe-pointed bistoury, inserted an india rubber tube and advised the washing out of the cavity every morning with the carbolic acid and warm water.

On the 31st I was again summoned to see the little sufferer; the tube having come out and the opening nearly closed, I drew off over a quart of very fetid pus and again washed out the cavity with the carbolic solution; I then enlarged the opening, inserted a piece of lint and recommended a wash of the carbolic acid one morningand comp. tinct. iodine next, and to be kept up in this way.

On the 22d April I was summoned hurriedly to see my little patient, the messenger stating that he did not think he would live until I could get there. When I arrived I found that the opening had become clogged up; I removed the obstruction, enlarged the opening and drew off a quart of very fetid matter. I washed out the cavity with an acidulated solution of sulphurous acid, and the fetor entirely disappeared. The child was having hectic fever and was reduced so low I did not think he could live forty-eight hours. I ordered egg and brandy and gave the quinine and iron every two hours with an occasional dose morphine and as much sweet milk as could be taken. I ordered the sulphurous acid solution to be used every morning until the cavity was well cleansed out. The accumulation gradually diminished; the offensiveness of the discharge immediately disappeared, and by the 10th of May the opening had closed and the child was entirely well and hearty, and has remained so.

I give this report merely to strengthen the testimony heretofore given in favor of sulphurous acid as an antiseptic and in checking suppuration.

SOCIETY REPORTS.

We give place to the following plan of an organization sent us by a subscriber, adopted by a number of medical gentlemen in a certain locality to protect themselves against the imposition of those who procure medical services for nothing, passing from one physician to another and never paying a bill. The document, we doubt not, will interest many of our readers, and may furnish valuable suggestions in forming like protective societies elsewhere. It is an experiment, having been in operation only about three months. The first effect, that of making everybody mad, is beginning to subside, and the medical friend who sends the paper says: "My collections have largely increased, while my labor has greatly diminished since the adoption of this plan; and as to their getting mad, so far as I am concerned, they may do so and go to the devil, as I practice medicine for a living and not for accommodation." [ED.]

CONSTITUTION AND BY-LAWS OF THE DEKALB COUNTY MEDICAL PROTECTIVE SOCIETY, DEKALB COUNTY, GEORGIA.

PREAMBLE.

We, whose names are hereunto annexed, agree to form ourselves into a society, the object of which shall be the advancement of medical science and the adoption of a plan by which the members of this society can more effectually collect fees for medical services.

CONSTITUTION.

ART. I. *Name.*—This society shall be known by the name of The DeKalb Medical Protective Society.

ART. II. *Officers.*—Section 1st. The officers of the Society shall be a chairman, secretary and treasurer, who shall be elected semi-annually, at such times as may be agreed upon by the Society.

Section 2. It shall be the duty of the chairman to preside at each meeting of the Society, to enforce the constitution and by-laws, to appoint all committees, etc.

Section 3. It shall be the duty of the secretary of this Society to keep a book in which shall be recorded the names of all the members of this Society, and it shall be the duty of the secretary to call the roll at the opening of each meeting of the Society, to read the minutes of the previous meeting and to furnish to each member a correct list of all defaulting patrons reported to this Society.

Section 4. It shall be the duty of the treasurer of this Society to take charge of all money belonging to the Society, to keep a fair and impartial account of the same, and to pay out such money when he may be called upon by the Society.

ART. III. *Members.*—Section 1. No person shall become a member of this Society who is not a regular practitioner of medicine and who does not agree to be governed by the constitution and by-laws.

Section 2. Any member of this Society may be expelled by a two-third vote of all the members present, for a violation of the constitution and by-laws.

ART. IV. *Of Amendments.*—Section 1. This constitution or any section of it may be changed or amended by a two-thirds majority of all the members of the Society, provided one month's notice of the proposed change is given at a regular meeting of the Society.

BY-LAWS.

Section 1. This Society shall meet regularly on the first Monday of each month at 9 o'clock a. m.

Section 2. It shall be the duty of each member to attend regularly at each meeting of the Society, and any member failing to attend, and not rendering a good excuse for absence, shall be fined not less than twenty-five nor more than fifty cents, at the discretion of the Society.

Section 3. All daily, weekly or monthly laborers, receiving wages, and all persons in any business bringing in regular returns, will not be indulged longer than sixty days after the service is rendered; all other persons not longer than the first of November of each year. And it shall be the duty of each member to report to this Society at each meeting the names of all persons who fail to comply with the above terms; provided that any member, for just and sufficient reasons, may extend a longer indulgence, satisfactory arrangements being made.

Section 4. It shall be the duty of each member of this Society to keep a list of all defaulters reported to this Society, and any member attending a defaulter in case of sickness or injury shall be fined not less than five dollars, or expelled, unless excused by the Society by reason of the special emergencies of the case.

Section 5. Any member of this Society is at perfect liberty to practice for genuine paupers at any time, free of charge.

Section 6. It shall be the duty of each member of this Society to make the following charges for medical services, unless it be a cash payment, and then they may make a deduction of 50 per cent.

Mileage, per day, 50 cents per mile; night, $1.00 per mile; and $1.00 for prescription or visit; obstetric fee, $10.00 to $25.00.

The undersigned pledge themselves to abide in good faith the conditions of the above constitution.

Names of Members: T. T. KEY, M.D., Chairman.
F. P. H. AKERS, M.D., Secretary.
LOUIS A. GUILD, M.D., Treasurer.
A. H. BRANTLY, M.D.
JAMES G. MAUL, M.D.
A. S. MASON, M.D.

GONORRHEA—HOW TO CURE IT EASILY AND QUICKLY.

BY DR. H. M. LAWSON, OF GEORGIA.

In the treatment of gonorrhea, I conceive that we have an unhealthy inflammation to deal with; this I convert into a healthy inflammation, by the frequent use of some weak injection (there are always indications in each case which point out the appropriate injection); after using the injection two days lay aside the syringe and give internally balsam copaiba, cubebs, or, what is infinitely superior, oxydized rosin, from our Southern pine; this and gum guiaiac in good gin, if not contra-indicated, or such combination as the medical attendant may select, for ten days, and if the patient has avoided everything known to induce relapse he is well.

The most painful and hurtful (so far as the cure of the immediate trouble is concerned) are erections and chordie; for these complications the bandage properly applied is a perfect remedy; neither is possible after the bandage is duly applied.

Before adopting these views of this disease and deducing therefrom this treatment, nothing gave me more annoyance and as little satisfaction as this class of cases; since, if I can prevail on the patient to obey instructions, a speedy cure follows almost invariably. If positive results are expected, the few directions I have given must be strictly followed.

REPORT OF THE RESUSCITATION OF A YOUNG GIRL APPARENTLY DEAD FROM DROWNING.

BY E. L. GODFREY, M. D., CAMDEN, NEW JERSEY.

The patient was a young girl, twelve years of age, of vigorous constitution, just rescued, in an insensible condition, from the water. The exact time in which she was in the water could not be accurately ascertained, but when rescued she was cold, pale, pulseless, with muscular system completely relaxed, with no signs of breathing, animation to all appearances being completely suspended.

After placing the patient upon her back, clearing the mouth and throat of frothy mucus, drawing forward the tongue, and loosening everything about the neck, both arms were raised as far as possible above the head and quickly brought down to the sides, while the chest was forcibly compressed and the patient turned quickly over, face downwards, so as to admit of the escape of fluid. These manipulations were twice quickly done, and had the desired effect of forcing considerable water and mucus froth from the air-passages. After the escape of the water, the patient was placed upon her back, the tongue again drawn forward, and the movement of the arms, according to the method of Dr. Sylvester, with manual compression of the chest, was

repeated, first slowly, then gradually increased to about twenty times per minute, with all possible regularity and gentleness. Efforts to promote warmth of body and activity of circulation were not unduly made until signs of returning animation were observed, which were gasping, convulsive tremors of the muscles of the face, and vomiting. After these, the limbs were vigorously rubbed, chiefly towards the heart; dry warmth applied to the groins and axillæ; sinapisms to the extremities, along the spine, and over the precordial region; ammonia passed under the nostrils, and flagellation, so highly and justly extolled by Professor Gross, vigorously applied by my assistants. Artificial respiration was continued all this time. After vomiting occurred, efforts at breathing became more marked, from greater play allowed the diaphragm. Then, after two hours of hard work, I was rewarded by the appearance of the unmistakable signs of returning animation. Stimulants were administered, *pro re nata*, as soon as patient could swallow, and when breathing and consciousness became well restored, patient was placed in a warm bed. Every indication to over-action was promptly met by the usual remedies, and the next morning the patient was convalescent.

Remarks.—In this case I believe manual compression of the chest, which forced the carbonic acid from the lungs, and mucus froth and water from the air-passages, and thus allowed the free ingress of air, contributed very materially towards the establishment of respiration.

The manipulation of the chest was easy of execution, owing to its size. Manual compression of the chest was more particularly brought to the notice of the profession by Dr. Benjamin Howard, of New York, in an article read before the American Medical Association in 1871, and is certainly a very material modification of the method of Dr. Sylvester, of London. The extensive inquiries instituted by the Royal National Life-Boat Institution of England, among medical men and medical bodies, have been the means of establishing a number of principles and directions to be carried out in effecting the restoration of the apparently dead from drowning. These principles are more especially founded (since the abandonment of Marshall Hall's) on those devised by Dr. Sylvester. Sylvester's method is too well known to need mention, but its active employment, if persistently followed, will often give the most flattering results, as is shown in the case reported, and also in a case reported by Mr. Douglas, in which no evidence of respiration was perceived until after the manipulations had been uninterruptedly performed for eight and a half hours. The period at which people die during submersion varies, of course, but recovery is said to be doubtful after a submersion of two minutes. Animation, however, is not completely suspended at once, unless the person is overcome by fright, injury, or coldness of the air and water. Even the Navarino sponge-divers are said not to be able to sustain submersion longer than twenty-six seconds, while the pearl-divers of Ceylon, according to Mr. Marshall, can seldom remain under water longer than two-thirds of that time. Syncope during submersion is favorable to recovery, as the system in that state is not in as urgent need of oxygen as in its active state. This is well shown in the case reported by Dr. Wooley, in which a girl, while in a state of syncope, fell into the water, and was restored to life after having been submerged six minutes.

Experimentation has shown that drowning is more speedily fatal to life than ordinary suffocation; that the chances of recovery are lessened from the effects produced on the lungs by water; that the lungs become passively congested; that as unconsciousness approaches, during submersion, water enters the air-passages and air-cells of the lungs, and that, from the congestion of the lungs and water in the air-cells, there results a bloody, frothy mucus, which not only fills up the air-cells and blocks up the smaller bronchial tubes, but penetrates the intimate structure of the lungs, rendering them œdematous, and thus physically unfit to receive or expel air by respiration. Thus, in cases of apparent death from drowning, the chances of recovery depend less upon the action of the heart than upon the quantity of frothy mucus present in the air-passages and its penetration into the intimate structure of the lungs.—*Medical Times.*

SUNSTROKE—INSOLATION.

The season of year is upon us when we may expect much suffering and not a few deaths from the effects of heat. Last summer, in St. Louis, there were many cases, but thanks to a more rational plan of treatment than was in vogue a few years ago, fatal results were rare. The affection is to be dreaded, not only because it is occasionally fatal, but also on account of the sad sequelæ that so often follow it.

It is a disease of the nervous system induced by heat, usually following exposure to the direct rays of the sun, from which it takes its name of "sunstroke;" but as all cases are not due to such exposure, this designation is a misnomer. "Calenture" would be preferable (from *calere*, to be hot), for a continued high temperature, even indoors, will produce it, as is seen in the effect on persons working in the confined, heated atmosphere of foundries, sugar-refineries, kitchens, laundries, on board vessels, and in barracks. Previous exhaustion of the system, from whatever cause, predisposes to it. Laborers suffer mostly, especially if of intemperate habit or of debilitated systems. In times past soldiers have suffered greatly; this was exemplified in our own late war. Men from the North, not accustomed to the extreme heat of the South, succumbed while on march frequently. In a short march of ten miles, on an extremely hot day, we have witnessed one-tenth of the men so affected. The heavy and tight clothing, together with the weight of the accoutrements, played an important part as factor in producing the disease. More judgment is at present displayed in the dressing of troops serving in hot climates, so that sunstroke is less frequent among them than formerly. The lamented Havelock hoped to prevent some of the evil effects of the direct rays of the sun by having the men wear white linen hoods with long capes.

Exposure to long-continued heat may be borne with impunity if the functions of the skin and bowels are active, but in cases of sunstroke the functions of the skin cease; thus the bodily temperature necessarily runs up, and the blood becomes impure; the bowels being constipated adds to the blood impurity. The frequent micturition is due not so much to renal activity as to the irritable urine.

The duration of the disease may vary—being fatal in a few minutes or in forty-eight hours. It is not the rule, however, that it ends in

death; but with recovery, if incomplete, come sequelæ, such as impairment of the intellect, distressing headache, amaurosis and other evidences of cerebral trouble, such as twitching of the muscles of the forearm and hand.

The symptoms vary with the cause of the attack. In the cardiac variety the onset is sudden, with scarcely premonitory symptoms. The patient falls, pants for breath, and may at once expire from syncope. In the cerebro-spinal variety the impending danger is indicated by heat and dryness of skin, temperature rising possibly as high as 107° F., vertigo, pain in the head (not constant), congestion of eyes, tired feeling, nausea, frequent desire to micturate, in severe cases even delirium. If the patient is conscious of the approaching attack, he may lie down and pass into a comatose condition. If the case progresses unfavorably the pupils contract—with insensibility to light, the symptoms intensify, with possible convulsions.

The attack need not be mistaken for apoplexy, in which the pulse is slow, full, possibly intermitting; breathing slow, irregular, explosive; pupils dilated, irregularly; skin cool, moist. In sunstroke the pulse is quick and sharp; breathing rapid, noisy, but not explosive; pupils contracted, and conjunctiva injected; skin hot and dry, except in a few of the cardiac cases.

The superheating of the blood has a depressing effect on the nervous centres; thus the cause of the symptoms as above given, and thus too, the index to treatment.

Prolonged insensibility, continued heat of skin, increasing congestion of the eyes, irregular and failing action of the heart, and lividity of the extremities, are unfavorable signs. Death may be preceded by convulsions.

After death the blood is found fluid; possible congestion of the cerebral vessels, and congestion of the lungs with, in the cardiac variety, distention of the right heart.

Protection from the sun, the wearing of light and loose clothing, avoidance of stimulants and of prolonged exertion in a close, heated atmosphere, are all prophylactic.

In the treatment, blood-letting was formerly resorted to, never now, for we have not to do with cerebral apoplexy. The results of therapeutic measures at present are gratifying, where formerly they were too often serious. The patient should be placed in the shadiest and coolest spot to be found, stripped and douched with cold water over head and chest, followed up or repeated until the temperature of the skin is reduced, and the respiration more regular. If the skin is not hot, the use of the water may be limited to sprinkling the face and chest. Ice may be used to lessen the temperature of the water. Empty the bowels by enema, afterward injections of ice-water may be used. Apply ammonia cautiously to the nostrils. If the skin refuses to act, we would advise the fluid extract of jaborandi in 20-minim doses, repeated every half hour until three or four doses has been taken, to induce sweating. Bromide of potassium in ten-grain doses every twenty minutes, well diluted, should be given, and if necessary, by enema, in which cases twenty grains may be administered. When exhaustion is imminent and the pulse weak, stimulants must be used by either the stomach or rectum. In these latter cases the cold douche must be employed carefully, and only for its effect as a shock.

If sensibility be not restored, a blister to the nucha should be applied. Dyspnea, when marked, may be relieved by application of dry cups to the thorax behind and in front. If convulsions set in, chloroform inhalations may be resorted to. After consciousness is restored, sinapisms may be applied to the nucha and to the mastoid regions, and the bromide should be continued for many days. Quietness should be enjoined, both of mind and body, and if possible, removal to a cooler climate. Regular habits should be insisted upon, without excesses.

Persistent headache frequently follows sunstroke as a sequel; in its treatment counter-irritation to the nucha, long continued, with a course of iodide of potassium, is often followed by benefit. A permanent residence in a cool climate, or at least removal to such during the hot season of the year, is of great benefit. Bathing of the skin, frictions, open-air exercise, regulation of all the functions, especially of the stomach and bowels, are quite essential.—*St. Louis Courier of Medicine.*

PROTOXIDE OF NITROGEN FOR PRODUCING PROLONGED INSENSIBILITY.

At a recent meeting of the Academy de Medecine et des Sciences, de Paris, Mr. Paui Bert says:

Protoxtde of nitrogen, discovered by Sir Humphrey Davy towards the end of the last century, is, at the present day, employed by many practitioners for the purpose or producing insensibility during dental operations. This insensibility cannot, however, be allowed to exist for any considerable length of time, for reason that the moment at which the desired degree of insensibility is gained, symptoms of asphyxia appear, which would soon lead to fatal results. For this reason, the American surgeons have not succeeded in performing lengthened operations on patients under the influence of protoxide of nitrogen, except by administering this gas in such quantities as to produce short, but repeated periods of insensibility, allowing the patient to recover consciousness between each period.

This difficulty results from the fact, that insensibility can only be produced by causing the patient to inhale pure protoxide of nitrogen, without any mixture of air; it follows, therefore, that asphyxia and insensibility are produced at one and the same time. M. Paul Bert proposes to produce prolonged insensibility, obviating, at the same time, all danger of supervention of asphyxia.

The fact that protoxide of hydrogen must be administered in a pure state, signifies that the tension of this gas must, in order that it may penetrate into the organism in sufficient quantity, be subjected to a pressure equal to that of an atmosphere. Under the normal pressure, it is necessary, in order to obtain this gas, that it should be in the proportion of 100 per cent. If we suppose, however, the patient to be placed in an apparatus in which the pressure is increased to that of two atmospheres, he may be subjected to the required tension by causing him to inhale a mixture of 50 per cent. of protoxide of nitrogen, and 50 per cent. of air; in this manner insensibility would be produced, while the normal amount of oxygen would be maintained in the blood, and consequently the normal condition of respiration preserved.

"This," says M. Bert, "is what actually occurs." As yet, however,

he has experimented on animals only. The following is his description of his manner of conducting this experiment:

"I enter the cylinder, and there, with an augmentation of pressure equal to that of 1-15th of an atmosphere, I cause a dog to inhale a mixture of 5-6ths of protoxide of nitrogen and 1-6th of oxygen, a mixture in which, as will at once be perceived, the tension of the so-called laughing-gas is exactly equal to that of an atmosphere. Under these conditions, in from two to three minutes, a very short period of agitation, the animal enters into a state of total insensibility; the cornea and conjunctiva may be touched without causing any movement of the eye, of which the pupil is dilated; a sensitive nerve may be laid bare and pinched, or a limb amputated, without causing the slightest movement; the muscular relaxation is extraordinary, and were it not for respiratory movements, which continue with perfect regularity, death would appear to have ensued. This condition may continue for half an hour or an hour, without any change taking place. During this time the blood retains its red color and its richness in oxygen, the heart its force in rhythmic action, and the temperature its normal state. Any excitation brought to bear on a centripetal nerve induces in the circulation and respiration all those phenomena of reflex action which would occur in the case of an animal in its normal state. In short, all the phenomena of the so-called *vegetable life* remain intact, while those of the animal life are for a time abolished; when, at the end of any given period of time, the vessel containing the gaseous mixture is taken away, the animal, at the third or fourth respiration, recovers almost immediately sensibility, volition and intelligence, as is sometimes unpleasantly proved by the desire to bite the operator, frequently exhibited by it. When unbound, it moves freely, and rapidly recovers its original gaiety and vivacity.

"This rapid return to the normal condition, so different from the after-effects when chloroform has been employed, arises from the fact that protoxide of nitrogen does not, like chloroform, enter into chemical combination with the organization, but is simply dissolved in the blood. As soon as the air inhaled ceases to contain this gas it escapes rapidly through the lungs; this I have discovered by analysing the gases of the blood.

"The innocuous action of protoxide of nitrogen is clearly proved by these experiments. On the one hand, the anesthesia affects only the medullary sensibility, leaving intact the reflex movements of organic life, the suppression of which, easily resulting through the employment of chloroform, can alone lead to fatal results. The harmlessness of this gas is still more decisively proved by the comparatively few accidents which have occurred from its administration in numerous cases by the dentists (the cases may be counted by hundreds of thousands), and the more so, that this gas has frequently been administered without prudence and by incompetent persons under conditions in which the intervention of asphyxia would augment the dangers, if such exist, of anesthesia.

"I feel myself, therefore fully authorized through my experiments on animals, in recommending to surgeons, in the most emphatic manner, the employment of protoxide of nitrogen under pressure, when insensibility of long duration is required. I assure them that by measuring, according to the method already indicated by me, the barome-

trical pressure, and the centesimal composition of the mixture in such a manner as to produce the pressure of an atmosphere for the protoxide of nitrogen, and the normal pressure of the air for the oxygen, they will obtain as complete insensibility and muscular relaxation as they can possibly desire, with rapid recovery of sensibility, and consequently the perfect consecutive well-being of the patient.

"The method of administration is singularly convenient, as, in case of any of those slight inequalities resulting from special degrees of susceptibility between different individuals, which invariably occur, it is sufficient either to diminish or increase the barometrical pressure, and this may with ease be effected by means of a cork. I see but one difficulty, that of obtaining the necessary apparatus, which I must admit to be an iusuperable one to army surgeons attached to regiments on active service. As the greater number of important operations take place in large towns, however, and as these are generally supplied with baths in which compressed air is employed, I confess I can see no great difficulty in providing in them a room large enough to contain the patient, the operator, and some dozen assistants, while the expense, some 12,000 francs ($2,400), would not form a very formidable item in the accounts of any hospital. These difficulties, however, are merely questions of secondary importance, the solution of which concerns the surgeons who, in the future, will employ this anesthetic; on them also will fall the burden of arranging those numerous questions of detail, which ever arise on the introduction of any new therapeutical agent.

"I have fulfilled my duty as a physiologist in pointing out this agent, in demonstrating the immense advantages which would accrue from its employment, and in insisting on its innocuous qualities, which can be explained with such wonderful facility."—*Physician and Pharmacist.*

ZINC vs. QUININE.

BY W. GIBBON CARTER, M.D., RICHMOND, VA.

Owing to the high price of the alkaloids of cinchona, the disagreeable results, in some cases, from their administration, and their nauseous taste, I was induced, from the high praise given the sulphate of zinc in the treatment of intermitting fever by Prof. John Eberle, in his "Practice of Medicine," to give it a trial. Dr. Eberle says: "The sulph. zinc is an excellent remedy in the cure of intermittents. I have very rarely failed to arrest the disease as promptly with it as with quinine."

Dr. Frith, in a letter to Dr. S. Mitchell, of New York, dated Calcutta, 1805, speaks in the most favorable terms of this article as a remedy in intermittents. He asserts that while prescribing in the Philadelphia Dispensary, he found it to cure cases in which both the bark and arsenic had failed. Mr. Brand also observes that "in the cure of intermittents the sulphate of zinc is an admirable tonic."

I have, in a practice of over thirty years, had ample opportunity of giving the zinc a full and fair trial, and the gentlemen quoted above, I am satisfied, have not overestimated its curative power in this fever. Had I to decide which of the two, quinine or zinc, I would select to cure ague and fever, I would unhesitatingly select the latter. I have

frequently promptly cut short the disease with the zinc after the quinine, freely used, had no more effect than pulverized brick dust. That its effects are far more lasting, and relapses seldom, I have been struck with.

While medical attendant to the Westham iron works, located five miles above Richmond, and on James river, and where paludal fevers were common, nine-tenths of the cases of intermittents were treated by zinc. So little quinine did I use with the operatives that I remember General Stone, who had a general supervision, was struck with it when looking over the bills for medicines ordered by me, and remarked, "I see, Doctor, where, before you had charge of the medical affairs here, we paid each year for eight, ten or twelve bottles of quinine, we pay now for one or two. How is this?" "I use sulphate of zinc as a substitute."

My mode of administering was simple. I have sometimes cut short —or rather, as the premonitory symptoms were coming on, thwarted— the paroxysm by giving the zinc in its emetic dose. Of course any other emetic would have done the same by its reaction. In the intermissions, I have ordered from two to three grains at a dose every three or four hours for adults, and to be continued some four days after the attacks have ceased. I generally give it in a little cold water. The addition of any of the flavored syrups, as lemon or ginger, would make a more agreeable dose.—*Southern Clinic.*

On Codeia as a Sedative.—No symptom is more distressing to a patient than frequent coughing, and none demands more judicious treatment on the part of the practitioner, if he would avoid undoing with his cough-mixtures all the good he is attempting by his more general therapeutic measures. In phthisis, the presence of anorexia makes us unwilling to give opium or morphia, and frequently, when we do so, we have reason to regret it. Many patients, especially gouty subjects, and those who suffer much from derangement of the liver, are intolerant of opium and morphia. On account of these difficulties, I have been led to employ codeia in such cases, in the hope that it might be of service, and it has succeeded beyond my anticipations. In phthisis it allays cough without disturbing the digestive system; and, in the other class of cases, I have found it tolerated when opium and morphia were not. As an instance of the latter, I may quote the case of a medical friend, a member of a gouty family, a frequent sufferer from migraine and derangement of the liver, and well aware of his intolerance of preparations of opium. He complained of a troublesome cough, depending on slight catarrh of the trachea and bronchi, and, at my suggestion, tried codeia, with all the benefit and none of the ill effects of opium. I prescribe the drug in doses of a grain, dissolved in syrup of tolu. The French medical papers constantly contain advertisements of codeia syrup, and probably it is well known as a cough tincture in this country; but I was not aware, and others may have been ignorant as I was, that it has those advantages over the preparations of opium and its other alkaloids. I therefore venture to call attention to it. Its value in diabetes is, of course, fully recognized.—*Brit. Med. Journal.*

ABSTRACTS AND GLEANINGS.

Dextro-Quinine—By W. H. GALT, M.D., Louisville.—The desire to find a substitute for the sulphate of quinine among the cheaper salts of bark has been universally felt in all the regions where miasmatic diseases prevail. In accordance with this desire I have tried cinchonidia, cinchonia, quinoidine, and cinchoquinine. The results of their administration in some cases have been good, but in the long run have not been satisfactory so as to induce me to abandon the old, tried friend, the sulphate of quinine. In fact, I confess I could not get up the required faith in any other salt. It is said that the Tahitians are readily converted to the Christian faith, and seem to enter with zeal into the form of Christian worship. But when in great strait, "when they mean business," their prayers are all addressed to the old shark god of their fathers. No doubt my case is parallel with theirs, and I am slow to perceive the efficacy of any appeal except to my old shark, quinine.

I was much pleased with the tasteless preparation of cinchonidia with sugar of milk and bi-carbonate of soda. The first three cases in which I used it were cases of intermittent fever in children, in which the result was everything that could be desired. It was easily taken, and promptly subdued the paroxysm. In four following cases, however, I was disappointed in finding that the gastric irritation produced by it was so severe that I have not used it since. After this I concluded to make no more experiments with them.

Some months ago I received from Keasbey and Mattison two small vials of a new preparation from the bark, called *dextro*-quinine, because under the polariscope it gyrated to the right. What was the therapeutic value of this gyration, I did not see. It was an amorphous salt of reddish-brown color, totally unlike any of the alkaloids with which I was familiar, and I made up my mind that I would try it. In a day or two afterward I had a slight chill followed by a pretty severe fever, which lasted several hours, and passed off with a profuse perspiration. As quinine always affects me most disagreeably, I determined to try the new salt in my own person. I took six grains every three hours until I had taken all of the eighteen grains which had been left with me. Except a slight sense of fullness in the head, I had none of the usual sensations which accompany the other salts of bark, no nervous tremulousness and no tinnitus aurium. Although the quantity taken seemed hardly sufficient to prevent a return of the paroxysm, I have never had a return.

The results of this experiment on myself seemed to justify my use of it with my patients. I have kept a record of seventeen cases in which I have used it, and in all but one with perfect success. In this case the patient knew that it was a substitute for the sulphate of quinine which I was using, and as none of the usual phenomena which follow its administration occurred, he lost faith, and substituted some pills of quinine which he had in the house.

As there is such a monotony in the report of cases of malarial fever, I spare your readers a formal report of each case, one very like the other, with two exceptions. One, a case in which the sulphate of

quinine invariably induced urticaria of such severity as to almost deter the patient from taking it. In this case some urticaria did appear, but nothing to compare in severity with that which followed the sulphate. The other was a case of double quotidian, which only yielded after using pretty heroic doses.

Although this is not a sufficient number of cases to make it appear that we can discard our old and tried remedy, the sulphate, the results were so certain and unvarying as to convince me that in the dextro-quinine we have a most valuable addition to our armamentarium. It strikes me that the absence of the disagreeable effects of quinine is a great desideratum, which, with its cheapness, should recommend it to the profession. The cases in which I used it were all of simple, uncomplicated malarial fever, and do not furnish evidence that it possesses the antipyretic power which the sulphate of quinine exercises in typhoid fever, in pneumonia, and the zymotic diseases. I feel justified, by the similarity of its effects to quinine in the cases in which I used it, to feel some degree of certainty that it will not disappoint us in all diseases in which the sulphate of quinine is used. After further use I will report the results, and hope that the profession will give it a fair trial. I also hope that the experience of others will be given through the *News*, so that by a comparison of views we may find the true value of this new salt. I would state that with adults the usual form of administration was in pills, while with children I usually gave it suspended in the compound elixir of liquorice. The dose was usually the same as that of quinine.—*Louisville Med. News.*

DEXTRO-QUININE sent by mail, at the rate of $1.60 per oz., to Physicians who cannot be supplied by their local druggists. Address

KEASBEY & MATTISON, Philadelphia.

Cholera Infantum.—"In a discussion on cholera infantum in Academy of Sciences, Kentucky, Dr. Holloway said: In colliquative discharges I believe the camphor julep, made of camph. carb. magnesia and water, given in ice, is the best single remedy. I think highly of Dr. Polk's views of quinine; would give it by enema, and have the anus closed by the hand with a napkin until absorption of the quinine takes place. Would use opiates, and recommend whisky as a stimulant."

Dr. Clemens, said "the fatality of cholera infantum is fearfully great. It produces nearly as many deaths, in the aggregate, as consumption. I believe it to be a disease of nervous exhaustion, anæmia of the brain being due to loss of serum from the blood. When called to see cases of this disease after the stage of collapse I have the patient sponged with whisky, as well as the internal use of stimulants. Three drops of creosote to an ounce each of lime water and mint water, in teaspoonful doses every two hours, with powdered ice kept to the lips, seems often to check the disease in some of its worst stages. When vomiting is persistent and frequent I usually give one-sixteenth or one-twentieth grain of calomel until the discharges are changed. I then give quinine in the form of tannate—one grain of tannin to five of quiuine, in syrup of tolu. I give this just as soon as the stomach will tolerate it. Attempts to nourish acute cases within the first twenty-fours should not be carried beyond egg-water. I like the effects of belladonna in

certain forms. In stages of collapse I think with Holloway that it is very similar to cholera in the adult. I often examined and found greatly diminished renal secretion, and suppression in some cases. I do not believe hyperæmia of the brain may be found even in the convulsive forms."

Dr. Larrabee was pleased to note the unanimity of opinion as to the pathology of this disease, agrees with Holloway and Polk in believing it to prevail quite extensively in Europe, under another name. He thinks heat is a prime factor, by its interference with the circulation in the spinal cord. Does not believe in malarial causes of it. Moist and warm atmosphere interferes with the secretions and irritates the delicately organized nervous system. The disease being essentially a nervous affection in its origin, the want of fixed pathological states makes it impossible to fix upon established rules of treatment. Thinks cool air, cold applied to the spine, of the greatest value. This disease is essentially the same as cholera in adults, the rapid collapse being due to the loss of serum. Anæmia of the brain is associated with heat, full sinuses, full veins, and anæmic arteries. The brain is not supported by the normal amount of pressure, and the rapid drainage soon exhausts the cerebral function. He thinks hypodermic morphia in cholera morbus should suggest its use in cholera infantum; thinks we ought to use it. Loss of serum demands the rapid introduction of fluids, and thinks the white of an egg in sweetened ice water a sovereign remedy. He does not think opium properly indicated in engorged states of the venous system. He thinks calomel the one great drug to be given in this disease. He gives it in 1/6 grain doses every four or five minutes until the character of the discharge is changed. Regards the camphor julep with high favor, and speaks highly of camphor water as a substitute when the julep is not at hand. Uses belladonna in cases of collapse, it produces hyperæmia of skin, where great pallor has existed. He proposes to apply cold to the spine by means of a rubber coil through which ice water is to be passed continually; it acts by reducing temperature. Does not believe the disease is peculiar to cities, though it is more likely to prevail in cities than in the country.—*Medical Herald.*

Prophylaxis in Yellow Fever.—Dr. Summers, in Nashville Medical Journal, says: The great problem for the medical profession to solve is the arrest of germ development in the organism. This is the only method of prophylaxis that is at all rational and likely to be followed by practical results. This being accomplished yellow fever will be robbed of its terrors, and be remanded back to that class of diseases which modern science has made controllable by the efficiency of its therapeutic agents.

Let us then see if we cannot arrive at some philosophic plan to accomplish this result.

It is well established that fermentation is the prime pathological factor in this disease. As a result of active fermentation we have the solution of a gas called carbonic acid gas. This is a solvent of albumen. In the blood albumen is not normally in a state of solution but of molecular suspension. The carbonic acid set free in this fermentation dissolves this suspended albumen, which now becomes subject to osmosis, passing out of the walls of the capillaries which in a state of molecular

suspension it could not do. Carrying with it white blood corpuscles into the tissues without it sets up the process of calorification which is so remarkably characteristic of this fever. Getting into the tubes of the kidneys it coagulates to form tube casts and, if not arrested, will go on to completc clogging of the secretory apparatus. The other changes which occur in the organism during the course of the fever are those of degeneration resulting from the causes just referred to. Now let us begin at the first pathological manifestation—the fermentation set up in the blood by the proliferation of the germ. What will prevent this or arrest it when once set up? The latter is more difficult to accomplish than the former. It is a well known chemical fact that sulphurous acid gas will at once stop fermentation when brought in contact with a fermenting substance—either alone or in its combinations. It is reasonable to suppose that this could be introduced into the organism to the arrest of fermentation and so has experience proved. The hyposulphite of soda is the best preparation to use. Suppose, however, that the fermentation has gone on to such an extent as to begin the solution of the albumen of the blood, which is often the case even when the system has been saturated with sulphuric acid—what then? Well, as a matter of course, we must find something which will precipitate the albumen from its solution. Chemistry comes to our aid with phosphoric acid which will effect this promptly, either alone or in combination. So we should expect *a priori*, and have found experimentally, that phosphate of ammonia will accomplish this result.

We have here the main avenues to the pathological arena of the disease therapeutically guarded. I have found that during the late epidemic that those persons who, with proper care of their person, took daily the prescription which follows either escaped the disease or at least suffered from very mild attacks :

℞ **Sodæ hyposulphite..... one ounce.**
Ammon. Phosphat..... one ounce.
Aq. Aurant. flor..... six ounces.

Dose, a teaspoonful in a little water, three times a day.

A little brandy every morning before breakfast, a good heart and easy mind, moderation in work, regular hours and attention to general hygienic conditions, along with the above prescription which meets the pathological conditions in advance, furnish the best basis of protection I think possible to offer, and I am satisfied that such a rational prophylaxis systematically carried out will go very far toward diminishing the horror of this disease with which its late fearful ravages have filled the mind of the people.—*Journal of Medicine and Surgery.*

On the Injection of Warm Water into the Vagina, in Certain Cases of Labor.—The cases to which this treatment is specially applicable are those in which the os uteri is thin and rigid and the perineum unyielding.

CASE I.—Mrs. A.——; third confinement. I was first called in about seven o'clock a.m., and found the os open just sufficiently to admit the forefinger. Pains every ten minutes. At 3.30 p.m., the os was about the size of a shilling, and the perineum rigid. Pains every two minutes, prolonged. The nurse, under my direction, administered an injection of warm water for about ten minutes, and after an-

other ten minutes I made a vaginal examination, and found the os nearly dilated to the full and the perineum relaxed. The child was born within forty minutes from the commencement of the injection.

CASE 2.—Mrs. B——; sixth confinement. She informed me that in all her previous confinements she was in violent pains from thirty-six to forty-eight hours, but was always quick at the end. About 3 a.m. I found her with pains every two or three minutes, and the os about the size of a shilling and unyielding. Pelvis roomy and no difficulty likely to be presented after dilatation of the os. At 8.30 a.m. I was called again, and could not detect the slightest alteration in affairs; so I ordered an injection of warm water to be given her. Half an hour after the injection was administered I was sent for again, but the child was born before I could arrive, although the distance was only two minutes' walk.

CASE 3.—Mrs. C——; second confinement. About 2.30 a.m. I was called, and found the size of the os to be about that of a shilling. Pains every five minutes. At 10 a.m. there seemed to be no change except that the pains were more frequent and longer. She was ordered a warm water injection. At 12.30 p.m. I found that the nurse had not administered the injection, and that the os was very slightly enlarged. The perineum was not at all rigid. I then gave the injection myself for about five minutes, after which the os dilated very quickly. The child was born in forty minutes' time.

CASE 4.—Mrs. D——; first confinement. I was called about 10 a.m., and found the size of the os just large enough to admit the finger. The vagina and perineum were excessively rigid—in fact the most rigid I ever came across. At 12 noon the next day the os was about the size of a shilling, and the other parts were unaltered. I injected some warm water for about eight minutes, after which the os rapidly dilated, dilatation being accomplished within half an hour, and at the same time the vagina and perineum became relaxed. As the child was a very large one, it took nearly three hours to traverse the pelvis, but the last part of the labor was quickly and easily performed.

CASE 5.—Mrs. E——, aged 37 years; first confinement. At 10.15 p.m. I found the os sufficiently dilated to admit the finger, and seemingly very unyielding. Pelvis fairly roomy, but the vagina and perineum rigid. She was ordered to have an injection for twenty minutes, which was commenced at about 11.15 p.m. A few minutes past one I was again sent for, and arrived just as the child was coming into the world.

CASE 6.—Mrs. F.——; first confinement. At 11.45 I found that the os would hardly admit the forefinger, although the pains had been continuing regularly since 9 a.m. She took then a draught consisting of forty minims of tincture of opium, which, however, had no soothing effect. At 9 a.m. (twenty-four hours from the commencement of labor), the size of the os was that of a shilling. Ordered an injection of warm water. At 5 p.m. the size was hardly that of a florin. At 10 p.m. the os had remained stationary in size and extremely rigid, although the pains were almost incessant. Upon questioning the nurse, I found that only lukewarm water had been used for the injection, and thereupon I administered one myself for five minutes with water as hot as she was able to bear. After this each pain made such a great progress that the os was wholly dilated in fifteen minutes, and the child born exactly

fifty minutes after the commencement of the administration of the injection.—*Lancet.*

Extraction of Cataract.—Mr. Charles Higgens, in Royal Medical and Chirurgical Society, read a paper entitled "Remarks on 150 Operations for Extraction of Cataract." The paper was accompanied by a printed table, in which were set down the sex and age of the patient, right or left eye, form of cataract, kind of operation, results and remarks. The results were collected under three heads—successful, partially successful and failures. Under the first head were 115, 76-6 per cent.; under the second 24, 16 per cent.; under the third 11, 7-3 per cent. So that in 92-6 per cent. of the cases the sight was improved by the operation. In 7-3 no improvement took place, or sight was worse than before. Three methods of operating were described—extraction by small flap, by linear section, by oblique corneal section. 104 cataracts were extracted by the first method, 26 by the second, and 21 by the third. The advantages and disadvantages of the various methods were briefly alluded to. Iridectomy at the time of extraction, or as a preliminary some time previously, was strongly recommended. The relative advantages of upward and downward section were mentioned. The after-treatment was given.

Mr. Macuamara said that the prognosis of cases of cataract operation was favorable in proportion to the dilatability of the pupil by atropine. He had never placed much reliance upon iridectomy in cataract extraction, but his great aim was to remove the entire lens, making a corneal section of just sufficient size to admit of this. If any fragments of the lens are left behind they set up irritation. The disadvantage of iridectomy lay chiefly in the fact that it admitted too much light into the eye, so that vision for distant objects became blurred, whilst the most successful cases he had seen had been cases of the old flap extraction and central pupil. He had lately seen a lady in whom thirty years ago Mr. Guthrie had removed cataract from both eyes; she has perfect vision.

Mr. Higgens' statistics were of value, and would advance this branch of surgery—different from figures lately published by an eminent continental oculist, of 230 cases of cataract and no failures! It is notorious how figures can be misread.

Mr. Hulke commented on the number of cases in the table of young persons, a few even at three and five years, and many under twenty years. He would like to know the reason why the author had departed from the generally accepted practice of treating such cases, where the lens is soft, by some of the various methods of solution, assisted by suction.

Mr. Spencer Watson referred to a method, introduced by a continental surgeon, whereby the capsule is lacerated before the corneal section is made. In lacerating the capsule after such section, there is greater risk of displacing the lens into the vitreous, or of causing prolapse of the vitreous. He had performed the new method some twenty-four times, and with good result; and in some cases he had found it well to perform a preliminary iridectomy. He thought the upward section of the cornea often better than the downward. It was very important to use as few instruments as possible, and to avoid the scoop.

Mr. Higgens, in reply, said that removal of the whole lens was more

easily effected with a small iridectomy than without. The old flap section, in favorable cases, was very good; no doubt it was so successful in past times because no cataracts were removed until they were "ripe." He fully admitted that several of his patients were young, and that his operations were often experimental. Needle operations were tedious and dangerous.—*Lancet.*

Cases of Syphilis.—The following interesting cases are reported in the *Lancet*, by Dr. Jonathan Hutchinson :

A young man was admitted six weeks ago, with a large indurated sore on his lip. Its characters were most definite, and under the jaw were a number of enlarged glands. The skin was covered with a lichenoid and papular rash. He did not know how he had caught the sore.

He first observed a little crack, then a month later it began to inflame and harden, and in another month the rash began to appear. Having remarked on the case as an example of non-venereal syphilis (*syphilis sine coitu*), or probably chancre from kissing, I drew attention to it as an illustration of the early stages of the disease.

For practical purposes we may divide the early phenomena of syphilis into three periods of one month each. The first month is occupied by the incubation of the chancre, and during it there is either no sore at all, or a sore which is soft, suppurating, and without definite character. At the end of the first month the process of induration will be commenced. Another month may be allowed for the full development of the chancre and for first appearance of constitutional symptoms; and at the end of two months from the contagion the sore may be expected to be hard, the bubo well characterized; the skin mottled with a roseolous rash. If treatment be avoided, the rash will develop further during another month, and, at the end of three, the chancre will still be in full vigor and the skin covered with a multiform eruption. The disease will now be at its full height, and it is at this period that iritis and retinitis are more likely to occur.

In this case the lad has now been one month under treatment by two-grain doses of gray powder three times a day; and, without ptyalism and without any interference with general health, the induration has melted away, and the rash almost wholly disappeared.

In connection with the above, in which syphilis is being cured by small doses of mercury administered through a long period, salivation being avoided, I drew attention to another, which occurred a month ago, in which profuse salivation appeared to be productive of the best results. A married woman of middle age was admitted with a most copious scaly and papular eruption. It covered her face, trunk and extremities, not any part escaping, and the profuse production of scale crusts was a very remarkable feature. On the arm it might have been mistaken for common psoriasis, but on the face there could be no doubt as to the diagnosis. Mercurial baths were ordered, but after the third she became freely salivated. For a week or two she was confined to bed, and in a very feeble state, from the profuse ptyalism. During this period the eruption vanished as if by magic. No more mercury was used in any form, and at the end of a month the woman left the hospital covered with stains, but having nothing whatever remaining but stains. She was charged to return in a month, that we might know if any relapse occurred.

I remarked in connection with this case that it was the most rapid cure of a severe secondary eruption which I had ever known. Although on the whole I prefer the long continued treatment by small doses, yet it is well to bear in mind that in certain cases mercury appears to be far more efficient when pushed to its full physiological influence. We must avoid prejudging the question, and keep our minds open for the reception of all evidence that may be forthcoming. In some acute inflammatory affections, not syphilitic, benefit is observed immediately that salivation occurs, while none is witnessed before.—*Med. Rep.*

Oxalate of Cerium in Whooping-Cough.—CASE 1.—A girl aged seven years. After a preliminary bronchitis the characteristic whoop declared itself. Bromide of ammonium, belladonna, chloral hydrate, etc., were given, but seemed to exert little influence, when suddenly the cough ceased, only to give way to typhoid fever, which, with its relapse, lasted for six weeks. Hardly was the patient up again before the whooping-cough reappeared, with even more severity. Expectorants were given, and one dose of 2 grs. of oxalate of cerium half an hour before breakfast each morning. The salutary effect of the oxalate was quickly apparent; but to see if its action was not overestimated, it was withdrawn for several mornings, when, instead of having light attacks of coughing once or twice a day, with nocturnal quietude, greater intensity and frequency of the attacks quickly ensued. The cerium was again resorted to, and the child soon recovered with but slight inconvenience.

CASE 2.—Girl 4 years old. Had whooping-cough two weeks, when scarlet fever appeared in a very severe form, being complicated with abscesses, uremic convulsions, etc. The pertussis did not at any time abate, but steadily increased in severity. Of course, with such a number of troubles, much attention could not be bestowed on the cough; but after convalescence as regarded the scarlatina had been established, the pertussis was treated. Oxalate of cerium was given as above, in one-grain doses, once a day before breakfast, with quick amelioration of the harassing cough. It may be here stated that, to reduce the high temperature of the scarlet fever, quinia was repeatedly given in large doses without having the least effect in counteracting the pertussis.

CASES 3 and 4.—Boy 19 months old and girl aged 3 years, attacked with whooping-cough; coughing spells frequent and severe, occurring once to three times each hour. Bromide of ammonium and belladonna were followed by no improvement, excepting easier expectoration. Epistaxis and frequent vomiting, accompanied by a cyanotic countenance, in both cases. The oxalate of cerium was given before breakfast, in one-half and one-grain doses respectively, once a day, with almost instant relief, the attacks being reduced to two or three light ones in twenty-four hours, instead of occurring hourly and with greater severity. To demonstrate the usefulness of the remedy it was withdrawn for several days, though the bromide and belladonna were continued, with the same result as in case No. 1.

The other remaining cases were uncomplicated ones, and yielded to the oxalate of cerium most satisfactorily, being relieved with the same promptness as the preceding ones. The rule was also observed in each case to continue the remedy one week longer than there was any existence of the whoop, to obviate the possibility of a relapse.—DR. MORJE, in *N. Y. Medical Record.*

Rhus Poisoning.—The request of Dr. D. M. Johnson for suggestions for the treatment of the poisoning by rhus toxicodendron has elicited responses from practitioners in various parts of the country. In addition to the articles on the subject by Drs. Gundrum, of Iona, Mich., and Parsons, of Brownsville, Missouri, we have received numerous others. A number of these are but recommendations of applications very commonly resorted to, and need not, therefore, be reproduced here. The following, however, are somewhat different. Dr. J. C. Campbell, of Albany, Vermont, has found satisfactory results to follow a free bathing with a saturated solution of the chlorate of potassium and the internal administration of:

℞ Tinc. ferri chloridi..... ℥ ij.
Cinchonidiæ sulph..... ℥ ss.
Aq. font. q. s. ad..... ℥ ij.

Dose, a teaspoonful every four hours.

Dr. J. F. Campbell, of Williamston, Mich., says the following has never failed in his hands:

℞ Tinc. camphoræ
Aq. ammoniæ.....aa ℥ ss
Ol. Olivæ..... ℥ ijss

Apply three times a day. Make it stronger or weaker *pro re rata.*

Dr. H. H. Bordener, of McClure City, Pa., pins his faith strongly to the black wash of the U. S. D. He gives also internally quinine and iron.

Dr. B. C. McPhail, of Minnesota, believes that the irritation is caused by an acid which is generated by the poison, and he applies a saturated solution of the bicarbonate of soda as a chemical antidote. Whether his theory is correct or not, he has found the application better than any other he has tried.

Dr. E. T. Wilmot, of Great Bend, Pa., writes:

"In my practice, the application of tinc. iodine has been the most effectual. From one to three applications, covering the affected part completely with the liquid, has never disappointed me of a cure. The burning and smarting sensation attending such an application is more or less severe, according to the nervous susceptibility of the patient, yet they will invariably pronounce the remedy as not half as bad as the disease."

Dr. A F. Henry, of Alamo, Indiana, sends the following:

℞ Caustic potassæ..... gr. xl.
Rain water..... ℥ iv. M

Wash the parts four or five times a day, and a cure is effected in two days. If applied immediately *instant* cure results.

One of my patients, very susceptible to the poison, carries a solution in his pocket when re-setting fences, and applies it at once when exposed to the poison. Instantly the epidermis peels as after other treatment. Olive oil for after treatment.—*Michigan Medical News.*

Baptisia Tinctoria in Typhoid Fever.—A paper read by Dr. Laurence Johnson, of New York, at the recent meeting of the Medical Society of the State of New York, on the "Action of Baptisia Tinctoria

in Typhoid Fever," is summed up as follows by the reporter for the Boston Medical and Surgical Journal: Baptisia tinctoria, although formerly believed to possess antiseptic powers rendering it useful in diseases having a tendency to putrescence, has of late fallen into utter neglect with the regular profession. It is, however, extensively employed by the eclectics and homeopaths; the latter especially considering it very valuable in typhoid fever. It was to test its value in this disease that the experiments recorded were made. The preparation used was a tincture of the root, and it was administered in small doses (from one to five drops) at intervals of from one to three hours. The ordinary general measures of treatment, such as cool sponging, milk diet and stimulants, when required, were not neglected, and any casual indications were promptly met and appropriately treated. Careful records of pulse and temperature were kept, and were shown in tables accompanying the paper.

Of the seven cases whose histories were detailed, three at least had, at the beginning, symptoms betokening attacks of severity. The pulse, temperature and general condition of these patients left no room for doubt upon the point, yet the improvement under treatment was remarkable. In general, it may be stated that the cases, when treatment was well under way, were characterized by lack of symptoms sufficiently grave to occasion anxiety. There was a marked absence of delirium and comparatively little diarrhœa, though at the beginning, in two or three cases, these were very troublesome features. The temperature seemed to be reduced by the drug, and in one case, where the morning temperature was as high as 106° F., when baptisia was employed for the first time, it never reached that point again, while the patient was fully convalescent in ten days. All the patients made good and comparatively quick recoveries.—*Exchange.*

Phlyctenular Ulcers of the Cornea.—Professor Seely says: "I here show you two ulcers of the cornea, near the periphery, apparently ready twenty-four hours ago to perforate. I then ordered a solution of eserine to be dropped into the eye four or five times before their return, and you never would suspect that there had ever been any danger of a perforation. I have had the most fortunate and satisfactory results with ulcers of the cornea under the influence of the myotic, and am now using it in all cases where there is no iritis. If the iris is inflamed, a mydriatic wash is to be used often enough to prevent synechia posterior.

"For corneal affections with iritis, I prefer duboisine, as during my five or six months' experience with the new mydriatic I have met with no case where it caused any irritation. I wish to call your attention especially to the use of the myotic in corneal affections of all sorts. You have seen a large number of cases of 'pannus' treated with the myotic in the most satisfactory manner. In fact, trachoma, with corneal complications, is robbed of its discouraging features by eserine and yellow oxide in vaseline eserine iritis. I have never yet met with a case of eserine iritis started up by eserine, though attention has been called to such a result; still, it is well enough to be on the lookout for such an accident.

"*Rupture of the Cornea and Prolapse of the Iris, Peripheric.*—The next case I present is one of very great interest, especially to the general practitioner.

"In general, the treatment of prolapse of the iris is, if it bulges and contains aqueous humor, to puncture it, thus causing the tumor to collapse, and then to lift it up—the prolapsed portion—with a forceps and strip it off. If the prolapse is seen early, and the iris is not lacerated, it is wise to attempt its return, under strong applications of eserine and a small probe or spatula of rubber. The eserine acts most favorably in such cases. If the wound is a large one, a compressive bandage should be applied to support the ruptured cornea."—*Lancet and Clinic.*

Typhoid Fever During Infancy.—The following is a well marked example of a case of enteric fever in an infant aged six months.

On Sunday, February 23d, I went to Redhill to see (with Dr. Walters, of Reigate) a little boy who was suffering severely from a relapse of typhoid fever. After our consultation, Dr. Walters was so kind as to invite me to see, in the adjoining house an infant aged six months, who presented a typical example of the disease. The child manifested the ordinary symptoms, and the eruption was abundant and pathognomonic. I understood that the disease had been contracted through the food, which was partly, if not wholly, artificial.

Dr. Walters, whom I have to thank for kindly permitting me to make this reference to the case, says, in a letter with which he has favored me: "I remember seeing a case in as young a child in a former epidemic here, which was due also to contaminated water-supply. It was also characterized by a very copious eruption." Both Dr. Walters's cases recovered.

Typhoid fever in *young* infants is rare. I have myself seen it in infants on several occasions, but I do not remember ever before having observed it at as early an age as in Dr. Walters's cases. Probably the exemption of young infants is mainly attributable to their mode of feeding; that is to say, children reared solely at the breast escape (unless their mothers suffer), while those who are either wholly or partly hand-fed are exposed to it. This at least accords with my own observation. It is well to bear in mind in this connection that, very commonly, young infants—*e. g.*, those under six months—escape the invasion of the acute specific diseases, even when other children in the family suffer. It is to be feared that typhoid fever is not unfrequently overlooked in young children; "gastric fever," "infantile remittent fever," "low fever," and "slow fever" being assigned as the cause of illness.—*British Med. Journal.*

The Short Forceps Superseded.—Having had some little experience in the practice of midwifery, I beg to bring under notice the following method of delivery, in preference to the use of the short forceps. Take, for example, a typical case, to which the short forceps would be used. The head of the fœtus is near the outlet of the pelvis, the pains are few and of short duration; the patient is very much exhausted, and seems to have no power of expelling the fœtus. Between the intervals of the pains, the head recedes into the pelvis and returns to its former position at the return of the pains, but does not make any progress. My plan is this: At the outset of the pains, I pass the index finger of my left hand into the rectum of the patient, and, as it were, hook the head of the fœtus, so as to keep it from returning again into

the pelvis, till the patient has a return of the labor-pains; and by continued pressure on the superciliary ridge of the fœtus, I gradually expel the head. This method I have adopted in several cases with marked success, and several of my friends have adopted the same method, at my suggestion, with the same favorable results—of course, always premising that the strength of the patient has been kept up by suitable stimulants; and, if thought advisable, ergot have been given to cause uterine contraction.—*Pract. Med. and Surg.*

Quebracho, a New Remedy in Dyspnœa.—Penzolt received, some time ago from Brazil, a package of bark from the *Apidosperma quebracho*, a tree belonging to the *apocyneæ*, said by South American physicians to possess anti-febrile properties. An alkaloid has been extracted from this by Baeyer, but this has not yet been tried, a tincture of the bark being employed by Penzolt, who found little or no anti-febrile effect from its use. On the other hand, he found it of value in various forms of dyspnœa. The formula used was as follows: Ten parts pulverized bark were extracted for a week with one hundred parts alcohol, filtered, evaporated and dissoved in twenty parts of water. Of this solution, one or two teaspoonfuls were given twice or thrice daily. It could be continued indefinitely without fear.

Penzolt concludes as follows: "We possess in quebracho bark a remedy which, without any ill effects, diminishes or puts an end, within an hour, to various forms of dyspnœa in the different diseases of the lungs and circulatory apparatus. The effect produced is manifested by a reduction in the frequency of respiration, often in the depth of the cyanosis, and, above all, in the subjective anguish.

The bark, which alone is as yet procurable, is used in commerce for tanning leather.—*Berlin Klin. Wochens.*

Explosive Mixture.—An explosive mixture is found by the combination of tincture of cardamon with nitro-muriatic acid (Salpetersalzsaure). That *Zeitschr. d. allg. Apoth.-Ver.* states that a druggist recently filled a prescription composed of these ingredients and handed the bottle to the messenger, in whose pocket it almost immediately exploded. The mixture was again made, the messenger warned not to shake the bottle. He arrived home safely, but in opening it the second exploslon took place, seriously injuring the patient's eyes. The druggist should have first mixed the two acids, and should not have closed the vial after the addition of the tincture until all reaction had ceased.

Massage of the Tonsils.—M. Quinart describes, in the Archives Medicales Belges, a method of treating hypertrophy of the tonsils that has proved very successful in his hands. The method, which is only applicable after the inflammatory period has passed, consists of massage of the gland, and is carried out as follows: He covers his index finger with alum, introduces it into the mouth, and brings it to bear directly on the tonsil, which is manipulated, with gradually increasing force, over as great an extent of its surface as can be reached. The operation is at first painful and disagreeable; but the discomfort is readily allayed by an emollient gargle. After a few repetitions, it ceases to be painful, and the patients readily learn to practice it themselves.—*New York Medical Record.*

Discoverer of Anæsthesia.—The National Eclectic Medical Association, at its recent session, unanimously awarded to Dr. Crawford W. Long, of Georgia, the credit of the discovery of modern surgical anæsthesia. His claims are becoming more and more established in the minds of all who are examining the matter without the bias of early education or sectional pride.

By the way, it seems that Congress has ordered the establishment of a National Gallery of Statuary in Washington, D. C. Each State is to designate two of its most famous deceased citizens, whose memories are thus to be perpetuated, It has been suggested that Georgia should contribute to this National Gallery, the statue of Dr. Crawford W. Long, late of Athens, Ga.

The Œsophageal Sound in Hiccough.—L'Union Medicale, March 17th, contains the report by Barre of a case of hiccough in a man aged forty-five, which had been only partially relieved by ether, opiates, bromides, compression and chloroform. This continual disturbance lasted ten months, when Barre one day passed an œsophageal sound. His patient fainted, and it was withdrawn. On the next day the patient reported that he had since the introduction of the sound had only three slight attacks. The operation was then repeated, no inconvenience resulting this time. At the date of report, thirty-seven days after, no recurrence of the hiccough had taken place.—*Cincinnati Lancet and Clinic.*

Peach Kernels for Clearing Water.—A Dutch hotel-keeper in the Transvaal clarifies the turbid water of the district in the following way: Half a dozen peach kernels are slightly cracked and thrown into a large butt of water. In an hour or two the muddiest will be found beautifully clear.—*New Qemedies.*

Ergot vs. Lactation.—Dr. Russell reports to the Bell County Medical Society a case where the secretion of milk was entirely prevented by the use of ergot until the eighth day. Ten hours after the medicine was discontinued the secretion of milk was quite free, but was at once checked by the use of ergot again.—*Nat. Med. Review.*

Apiol in Amenorrhea and Dysmenorrhea.—Apiol, the active principle of parsley, is an oleaginous amber colored liquid, soluble in water in any proportion, and of an acrid taste. It may be given in capsules. According to Marotte, in Mouvement Medical, it brings on menses, regulates menstruation, and calms the pains by which it is often accompanied. It has no action upon the pregnant womb.

Facetiæ.—Devil's Drug was one of the old names for assafetida, *a propos* of which the Medical Press tells the following: A small boy, entering the shop of a Scotch druggist, said—"My mither sent me for a bawbee's worth of that stuff for the wind. She disna' mind the right name, but they ca't deevil's dirt." To which the northern knight of the pestle replied—"Rin hame and tell your mither that I canna' disturb the devil for less than a penny."

"GOD and the doctor we alike adore,
But only when in danger—not before;
The danger o'er, both are alike requited—
God's forgotten, and the doctor slighted."

—*Southern Clinic.*

SCIENTIFIC ITEMS.

How Old Is the World.?—Geologists, astronomers and physicists have hitherto been baffled in their attempts to set up any satisfactory kind of chronometer which will approximately measure geological time, and thus give us some clue to the antiquity of our globe. It is therefore worth noting that Mr. Mellard Reade, of Liverpool, has lately contributed to the Royal Society a very suggestive paper, in which he endeavors to grapple with the question by employing the limestone rocks of the earth's crust as an index of geological time.

Limestones have been in course of formation from the earliest known geological periods, but it would appear that the later found strata are more calcareous than the earlier, and that there has in fact been a gradually progressive increase of calcareous matter. The very extensive deposition of carbonate of lime over wide areas of the ocean-bottom at the present day is sufficiently attested by the recent soundings of the Challenger.

According to the author's estimate, the sedimentary crust of the earth is at least one mile in average actual thickness, of which probably one-tenth consists of calcareous matter. In seeking the origin of this calcareous matter, it is assumed that the primitive rocks of the original crust were of the nature of gigantic or basaltic rocks. By the disintegration of such rocks, calcareous and other sedimentary deposits have been formed. The amount of lime salts in waters which drain districts made up of granites and basalts is found, by a comparison of analysis, to be on an average about 3.73 parts in 100,000 parts of water. It is further assumed that the excessed areas of igneous rocks, taking an average thoroughout all geological time, will bear to the exposures of sedimentary rocks a ratio of about one to nine. From this and other data Mr. Reade concludes that the elimination of the calcareous matter now found in all the sedimentary strata must have occupied at least 600,000,000 of years. This, therefore, represents the minimum age of the world. The author infers that the formation of the Laurentian, Cambrian and Silurian strata must have occupied about 200,000,000 of years; the old red sand stone, the carboniferous and the poikilitic systems, another 200,000,000 and all other strata the remaining 200,000,000. Mr. Reade is, therefore, led to believe that geological time has been enormously in excess of the limits urged by certain physicists; that it has been ample to allow for all the changes which, on the hypothesis of evolution, have occurred in the organic world.—*London* (Eng.) *Academy.*

How Deeply Does the Earth Quake?—The recent earthquake at Virginia City was not noticed at all in the mining depths, but only by the people on the surface. Their famous earthquake of some time ago, which shook down chimneys and fire-walls, cracked brick buildings and did other damage, was merely noticed by some of the miners working in the upper levels, but it did no damage, not even shaking down loose stones and earth. The station-men in the various shafts felt it the strongest, and the deepest point where it was noticed was in the station-tender at 900-foot level of the Imperial-Empire shaft

—900 feet below the surface. He said it felt like a sudden faint throb or pulsation of the air, as though a blast had been let off at a distance above, below, or in some indefinite direction. In some of the mines the shock was not noticed at all, even by station-men. Commenting on this peculiar fact at the time, the Gold Hill News remarked that the earthquake seemed to be an electrical disturbance, proceeding from the atmosphere and not from the depths of the earth.—*Sacramento* (Cal.) *Union.*

Sphymograph.—The latest telephonic wrinkle comes from a London physician, who exhibited before the Royal Society the other day what he calls a "sphymograph"—an instrument by which the human pulse, or heart-beat, can be made to register audibly at long distances. In fact, the pulse talks telephonically, and so loudly that when two cells are used the sounds can be heard by an audience of several hundred people. By extending the telephone wires the sounds can also be conveyed long distances, so that a physician in his consulting-room might listen to the heart or pulse of a patient lying in bed (speaking modestly as to distance) a mile or two away.

Dr. Richardson described to the Fellows of the Royal Society that the sounds yielded by the natural pulse resemble the two words "bother it" which, as the Lancet says, is "pretty good for a beginning."

The Tongue and the Sense of Taste.—The tasting power of the tongue is not regularly distributed over all parts of that organ. According to the unanimous judgment of physiologists, the back part of the tongue is best qualified for this function, while there is a difference of opinion as to the tip of the tongue. The older observers have repeatedly said that a tasting power in the tip is limited to certain persons, whereas more recent ones affirm its presence in all men. In experimenting on the so-called "reaction-time," Herr Vintschgau lately met with a case of limited tasting power in the tongue tip, and this led him to a thorough investigation of the subject. The observations were made with solutions of chloride of sodium, sugar, quinine and citric acid. The results were as follows: There are persons who are capable of accurately distinguishing all principal tastes with the tip of the tongue alone; others perceive with certainty the qualities of sweetness, saltness, acidity, but less distinctly bitterness. Others, again, can only with great difficulty distinguish tastes with the tip of the tongue; and finally, there are individuals who cannot do this in the least.—*Journal of Chemistry.*

New Scale.—By making a miniature of an object, such as a spider line, and examining it with a microscope, Dr. Royston Pigott has found that objects even as small as the millionth of an inch could be seen; and in a late communication to the Philosophical Society, Cambridge, he took exception to the view generally prevailing among opticians, that it is useless to attempt further perfection of the microscope.—*Journal of Chemistry.*

Nickel.—The American nickel five-cent piece contains seventy-five per cent. of copper, twenty-five per cent. of nickel, and weighs 77.16 grains.

PRACTICAL NOTES AND FORMULÆ.

Skin Diseases.—In Squire's Pharmacopœia of the British Hospital we find the following:

CHRONIC ECZEMA.

A carbolic acid lotion, gr. x, to water ℥ j, is used to allay irritation. As a mild stimulant, a pigment of aloes.

℞ Aloes extracti barbad..... ℥ iij.
Glycerini..... ℥ vj.

Dissolve.

An ointment of birch oil is used cautiously in dry eczema.

℞ Olei betulæ albæ..... ℥ ij.
Ceræ flavæ..... ℥ ij. Melt.

In subacute and chronic forms, the oleate of zinc is soothing.

℞ Zinci oleatis..... ℥ ij.
Adipis..... ℥ j.

CHLOASMA LENTIGO.

For these troublesome discolorations of the skin an ointment of alizarin is recommended.

℞ Alizarini factitii..... ℥ j.
Adipis..... ℥ j. M

Or a sulphurous acid lotion.

℞ Acidi sulphurosi..... ℥ ij.
Aquam ad..... ℥ j. M

The rapid evaporation of the acid from the lotion should be retarded by applying the lotion on lint or rag covered with oil silk.

As a bleaching agent in lentigo:

℞ Sodæ chloratæ liquoris..... ℥ ss.
Aquæ..... ℥ j. M

Chrysophanic acid ointment is also useful in these affections.

PSORIASIS.

Chrysophanic acid is a leading remedy.

℞ Acidi chrysophanici..... ℥ ij.
Adipis..... ℥ j.

Heat together in a water bath for half an hour; when set, mix with pestle and mortar.

The erythema which arises after some times only a few applications of this ointment should be watched for, and on its first appearance the use of the ointment should be promptly discontinued. It should never be applied in the vicinity of the eyelids, as they are apt to be rendered œdematous.

Palatable Castor Oil.—Rub two drops of oil of cinnamon with an ounce of glycerine, and add one ounce of castor oil. Children will take it as a luxury and ask for more.—*Courier of Medicine.*

Misturæ.—The Pharmacopœia of the Hospital of the University of Pennsylvania gives :

Mistura Potassii Cyanidi.

℞ Potassii cyanidi..... gr. j.
Syr. acidi citrici.....
Aquæ.....aa f ℥j.

Dose, one teaspoonful.

Mistura Sodii Composita.

℞ Sodii bicarbonatis..... gr. xx.
Acidi carbolici..... gtt ij.
Acaciæ.....
Sacchari.....aa q. s.
Spts. lavendulæ com..... f ℥ij.
Aquæ..... q. s. ad f ℥j. M

Dose, a teaspoonful two hours after meals.

Mistura Olei Morrhuæ.

℞ Olei morrhuæ..... f ℥j.
Tinc. iodinii comp..... m viij. M

Dose, one to four teaspoonfuls.

Mistura Olei Morrhuæ et Ætheris.

℞ Mist. ol. morrhuæ..... f ℥j.
Ætheris..... m xvj. M

Dose, one to four teaspoonfuls.

Mistura Olei Morrhuæ et Calcis Lacto-Phosphatis.

℞ Olei morrhuæ.....
Mucil acaciæ.....aa f ℥ij.

Fiat emulsio et adde :

Syrupi calcis lacto-phosphatis..... f ℥ss

Mistura Hyoscyami et Morphiæ.

℞ Morphia acetatis..... gr. ¼.
Tinc. hyoscyami..... f ℥iss.
Syr. tolutana..... f ℥ijss.
Aqua..... f ℥ss.

Dose, two teaspoonfuls.

Mistura Ammonii Chloridi.

℞ Ammonii chloridi..... xx.
Aceti scilla..... f ℥j.
Mist. Glycyrrhiza comp..... f ℥vij.

Dose, two to four teaspoonfuls.

Mistura Cinchoniæ Acida.

℞ Cinchonia sulphatis..... gr. iv.
Acidi nitromuriatici dil..... m xij.
Aqua cinnam..... q. s. ad. f ℥j.

Faciat solutio. Dose, a tablespoonful in water, before meals.

—*Hospital Gazette.*

Hog Cholera.—Dr. A. W. Burrows, of Ind., writes :

The following are the ingredients used in Dr. Jos. Haas' hog cholera remedy, which is used extensively in the West for arresting disease so prevalent among swine :

Ashes	20	parts.
Lime	20	"
Salt	1	"
Soda	2	"
Baberry	2	"
Capsicum	2	"
Arsenic	1	"
Calomel	1	"
Spanish brown	6	"
Flour	3	"
Tonca bean	1	"

The remedy has proven more efficient than anything else ever used, and I place it at your disposal, believing that it will be of interest to many of your readers. It should be given as follows :

One even tablespoonful twice a day for each hog when sick. When used as a preventive, one tablespoonful for each three hogs once or twice a week.

Malarial Fever of the South.—L. A. Rutherford, M.D., of Macon, Ga., writes :

There is doubtless an endemic modification of yellow fever pervading yearly certain rural districts of the South, requiring only the crowding and filth of large cities to entail upon it the fatally epidemic character of its city cousin. In this pathological condition we have, superadded to the ordinary malarial poisoning, cholæmia, or the accumulation in the circulating fluid of cholesteriane and other excrementitious properties of the bile. If this retrograde metamorphosis of the vital fluid be not speedily arrested by suitable hæmatics, we shall invariably have necræmia and speedy dissolution.

The treatment should point to the removal of all offending material by prompt and stimulating emetics, which will fulfil the twofold purpose of restoring vital function, and removing in part the causa morbi. The early, free and persistent use of quinine, or dextro-quinine, beef tea, counter-irritation and hot fomentations, will be the clear line of practice. I have used the new antiperiodic, dextro-quinine, with much success in the treatment of such cases.

Potato and Diphtheria.—Dr. W. W. Carpenter, of California, writes :

The May issue of the RECORD contains a selected article from the Medical Reporter, written by Dr. M. C. Keith, of Nebraska, entittled "Potato Eating and Diphtheria." My object is not to refute the Doctor's theory further than to suggest that in so much as potatoes have been the universal food of childhood from time immemorial, it is somewhat strange that so many of us have survived the ordeal.

The Doctor rests his position on a personal experience of seventeen years, and an experience of twelve years in his father's practice, Dr. Alvan Keith, of Augusta, Me. The father's experience was all previous to 1861. Now, when we reflect that diphtheria first presented itself to this generation of physicians in 1856; that the first point of inva-

sion on this continent was in this state and this town (Petaluma); that it raged here two years before it reached the Atlantic coast; that not a case occurred in Maine until 1859, will Dr. Keith explain how his father acquired twelve years' experience in its treatment prior to 1861?

Dressing Head Wounds.—Dr. Smith, in Nashville Medical Journal, says:

Our favorite plan, especially in head wounds, is to draw the lacerated parts together with silver wire sutures, and keep the parts wet with paregoric and thin simple syrup equal parts, leave the wound entirely open to the air and defy bacteriæ: etc. No kind of insect will touch the wound and it rapidly heals—often in serious cases, without a particle of suppuration.

All things considered, this is preferable to Lister's carbolic plan, for ordinary wounds at least.

Diarrhœa of Children.—Dr. Garrison, in the Lancet and Clinic, suggests the following:

℞ Carb. iron..... gr. i.
Bismuth subnit..... gr. ij.
Cerium oxalate..... gr. i.
Opii pulv..... gr. 1-20.

Mix for one dose to child six months old, and to be increased owing to age, every two to four hours.

Milk Diet in Acute Rheumatism.—M. Biot, in an important work published in the *Revue Mensuelle de Medecine et de Chirurgie*, exposes new ideas on the nature of acute rheumatism. The treatment must be started as soon as possible, and pure milk must be used at the exclusion of any other food. The quantity may vary according to taste and habits of the patient; the minimum dose being one quart a day, which can be increased to two, and even three quarts.

It is necessary that the milk be taken in small quantity and at regular intervals.

In a short time—from three to seven days—the patient becomes convalescent. When the pains have ceased and the fever has subsided, the treatment must be continued with mixed food, but alcohol, wine and meat must be dispensed with for some time, otherwise a relapse would surely be the result.

Ergotin Hypodermics in Epistaxis.—Dr. Porack cites three cases of obstinate nasal hemorrhage, each of which was promptly arrested by a single hypodermic of ergotin. His formula was:

℞ Bonjean's ergotin..... 2 grammes.
Glycerin.....30 " M

Twenty drops hypodermically in the lip or cheek.—*La Tribune Medicale.*

To Test for Albumen.—Da Costa says drop the fluid slowly down the side of the test-tube upon the nitric acid. If any albumen be present, an opaque white ring is seen to cover the surface of the acid. This is the most delicate test with which I am acquainted.—*Courier of Medicine.*

EDITORIAL AND MISCELLANEOUS.

☞ *The Red Cross* on your Journal shows that you have not paid your subscription. It is notice to subscribers of both 1878 and 1879. Friends, please attend to this matter at once.

The Southern Medical College.—See the card of the above Institution in the present issue of the Journal.

We assure our readers that this will be an Institution of a high order. The founders are determined to make it so. The college building is rapidly approaching completion, and lectures will open on second Monday in October, as per announcement.

Incubation.—This word, in medicine, is figuratively applied to the length of time a morbific principle remains undeveloped in the animal economy. There seems to be a law specially governing the period of development in every particular poison—yet exceptions occur in which from some unexplained cause the morbid action is retarded or remains dormant beyond its proper period.

In hydrophobia, the incubation is often prolonged for years. A poisonous germ or molecule being encysted or locked within the cicatrix in such manner as not to be absorbed or developed.

The case reported in last number of our Journal by Dr. L. Johnson would seem to indicate that similar delay of development may occur in the action of the vaccine virus. We are not aware that a similar case is on record.

EDITORIAL NOTICES.

International Medical Congress.—The International Medical Congress meets in Amsterdam, September 12th, 1879.

The American Academy of Medicine.—The objects of the Academy are thus stated in its constitution:

1. To bring those who are alumni of collegiate, scientific and medical schools into closer relations with each other.
2. To encourage young men to pursue regular courses of study in classical or scientific institutions before entering upon the study of medicine.
3. To extend the bounds of medical science, to elevate the profession, to relieve human suffering, and to prevent disease.

The next meeting of this Association will take place in New York, September 16th, 1879.

OUR ADVERTISING DEPARTMENT.—This Journal has persistently sought to furnish our readers with advertisements from safe and reliable advertising Houses. We shall continue to do so, and, without encroaching upon our reading matter, which will remain the same, believing that our readers desire it and will be profited thereby.

If it is important to know *what* medicines to prescribe, it it certainly not less important to know *where* and from *whom* to get those that are pure and reliably prepared. We shall hereafter endeavor to keep our readers posted more particularly as to the safe and reliable drug Houses, that they may order from them, or get their home merchants and druggists to do so.

BOOK NOTICES.

A TREATISE ON THE HORSE AND HIS DISEASES, by B. J. KENDALL. M.D., Enosburg Falls, Vermont.—88 pages, illustrated. A practical and useful work.

PHARMACOPŒIA OF THE BRITISH HOSPITAL FOR DISEASES OF THE SKIN.—London. Edited by BALMANO SQUIRE, M. B. LOUD, Senior Surgeon to the Hospital.—J & A. Churchill, publishers.

This is a very useful work to practitioners, especially to dermatologists.

THE CLOCK STRUCK THREE, being a review of "The Clock Struk One," and reply to it, showing the harmony between Christianity, Science and Spiritualism. Chicago: Religio-Philosophical Journal Publishing House, S. S. Jones, Proprietor. 352 pp. $1.50.

This work is by Rev. Samuel Watson, formerly a distinguished minister of the Methodist church, who claims, from a long and prayerful investigation of the subject, that the phenomena of modern Spiritualism are real, and will at no distant day, when purged of its follies and excresences, eventuate in the re-establishment of primitive Christianity as taught and exemplified by Christ and his Apostles, and is providentially designed to counteract and utterly to destroy the materialism and scientific infidelity of the day. The style of the writer, it must be conceded, is clear and forcible, and his views appear to flow from a sincere and earnest conviction. It would certainly be a happy consummation of tnis mysterious movement, should the views of Dr. Watson prove to be correct. But Spiritualists of his class can scarcely hope for a fair hearing so long as the mass of literature upon the subject continues to be directed against rather than in favor of the Bible and Christianity.

ELEMENTS OF MODERN CHEMISTRY, by ADOLPH WURTZ, Member of the Institute; Honorary Dean and Prof. of Chemistry of the Faculty of Medicine of Paris, etc.—Translated and edited with the approbat on of the Author, from the fourth French edition, etc.; with 132 illustrations—676 pages—Philadelphia, J. B. Lippincott & Co., 1879.

This is a very valuable work in chemistry, embodying all the modern chemical advances, presented in a form of easy comprehension and acquirement. It is a translation of the fourth French edition of M. Wurtz, the great chemist of France—with changes and additions of interest to the American reader.

POSTURE AS A MEANS OF RELIEF IN STRANGULATED AND INCARCERATED HERNIA, with a General Consideration of the Mechanism of Reduction, by FRANK H. HAMILTON, A. M, M.D., Surgeon to Bellevue Hospital, etc.

SPECIAL NOTICES.

QUININE PILLS of our make are prepared from Sulphate of Quinia of American manufacture, noted for its purity and excellence. Each Pill contains the full complement of material as expressed on the label, without the necessity of adding any excess to compensate for impurities. They are perfectly soluble, and physicians can depend upon obtaining the full benefit of the valuable remedy in a pleasant form. Always specify WARNER & Co., and avoid the substitution of cheaper and inferior brands.

Lactated Pepsine.—This preparation is composed of the following powerful digestive principles, of which each dose of five grains contains: Pepsine (pure), 1 grain (equal to 5 grains of saccharated pepsine); Pancreatine, ½ grain; Lactic Acid ½ grain; Maltese, ¼ grain; Diastase, 1-15 grain; Hydrochloric Acid, 1-10 grain.

Dose, 1 to 5 grains.

LACTATED PEPSINE will be found of great value in dyspepsia, all phases of indigestion, malnutrition, diarrhœa in infants, chronic diarrhœa, cholera infantum, constipation, and vomiting in pregnancy.

Be particular to specify "PARKE, DAVIS & Co.'s" LACTATED PEPSINE.

SPEER'S Port Grape Wines for Weakly Persons.—This excellent product of the grape is prescribed and used by the leading physicians in the country, and by the most fashionable families at evening entertainments, and by churches for communion. For sale by druggists.

GRATUITIES OF MEDICAL MEN—AN APPEAL TO THE LEGISLATURE.

Many years ago, Dr. R. C. Word, the Managing Editor of this Journal, at a meeting of the State Medical Association, introduced the following resolution, which was adopted.

Resolved, That this Association memorialize the Legislature of Georgia, to abolish the *Professional* tax upon physicians, and to urge the passage of an Act requiring the Inferior Court of each county to set apart such portion of the county tax as the Grand Jury shall recommend to purchase drugs for the use of the poor.

In accordance with this Resolution, Dr. Word, as chairman of the committee, drew up the following Memorial, which was duly presented to the Legislature, but failed of adoption for the want of backbone on the part of legislators who were afraid of being charged with class legislation, and who, as usual, were controlled by buncomb rather than by principles.

The Legislature being now in session we reproduce the document, hoping that the medical men who are members of that body will examine it, and frame and urge the passage of a bill embodying its suggestions, substituting the Ordinary for the Inferior Court to conform to present laws.

MEMORIAL.

The undersigned were appointed a Committee to bring this matter before your honorable body.

In performing this duty we beg respectfully to submit a few reasons for this appeal to the Law Making Power.

It is a fact, apparent to every observing mind, that medical men, far more than any other class of citizens, contribute gratuitously, their time, labor and money, to the relief of the indigent. And as it is the duty of the State authorities, and not of a particular class to bear the burden, these gratuitous services can be regarded in no other light than contributions to the State.

The per centage of population requiring these services is by no means inconsiderable. Taking the county of Floyd as an average county, observations have been made by which we are enabled, confidently, to assert that the amount thus donated by medical men in Georgia, in the single article of quinine can scarcely fall short of thirty thousand dollars per annum, with a strong probability that it largely exceeds that amount. If, in connection with this startling fact, we consider the value of other medicines contributed, with the time and labor, it is evident that the amount of this gratuitous outlay of physicians to the State is enormous. It is remarkable that the public, and especially the Legislature, has so little appreciation of the extent of these gratuitous labors of medical men. True it is that the Inferior Court, under existing laws, is required to provide for the poor, and the physician pays his part of the annual tax, levied for this purpose. But, either from defects of law, or gross neglect of the Courts, it is well known that the instances in which the poor are thus provided for are very few, and the procuring of medical services and drugs do not seem to be regarded as belonging to their list of duties. Indeed, except in cases of lunacy, or in extreme and rare instances of helplessness, where the subject has been entirely abandoned by his acquaintances, it is seldom that the Courts make any provision whatever. Yet, even in these extreme cases, deserted by all, the physician alone is expected, without compensation or thanks, to give, not only his personal attention, but his money, to the relief of the sufferer. At all seasons, in all kinds of weather, in the dark hours of night when others are asleep, the medical man passes from one scene of distress to another, bestowing his labor, risking his own health, and dispensing drugs to the indigent sick. To this course he is impelled by two powerful forces. The first and greatest is the demand of humanity, which to a conscientious man leaves often no alternative by which to escape

the call. The second is the force of public sentiment, which will not tolerate in the physician that freedom of action which it allows to others. The merchant may refuse credit to whom he chooses. The druggist may decline to sell to an insolvent customer, and it is well, but the physician who exercises this liberty brings upon himself the severest censure, and consequent injury to his character and business.

To the many cases of casualty and death which occur in this fast age, a large proportion of which is among the poorer classes, the physician stands a ready servant, subject to every beck and call, and is expected and required to have in readiness all the appliances and material, at whatever cost—adapted to every emergency. By his promptness and benevolent agency he relieves large numbers, and oft times rescues them from impending death. When, under analogous circumstances, a party is snatched from a burning dwelling, or a watery grave, the individual who performs the deed is exalted into a hero. When a mariner rushes to the rescue of a distressed crew, he gains for himself laurels of praise and medals of honor. Not so with the physician. He is regarded as having discharged a mere common-place duty, and scarcely meets with a passing commendation. And such is the tyranny of custom and law, that if he refuses to respond to every call, he encounters the indignant frown of the community, and failing, from want of proper facilities or other cause, to adopt the most scientific treatment he becomes liable to prosecution and heavy damages. Although medical men, as a class, are proverbially benevolent and kind, and are ever ready to heed the call of suffering humanity; and while they claim and desire no special exemption from the moral responsibilities and duties incident to their noble profession, yet they feel that the public authorities can and ought to do more than is or has been done for the poor in this particular, and that they ought not to require the physicians' services nor his drugs without compensation; much less to heighten the infliction by imposing a specific tax. If it be urged that a physician's profession is his capital, and therefore ought to be taxed, we reply that it is taxed, and that heavily in the manner and for the reasons above stated. The calls of humanity and necessities peculiar to the practice of the medical profession; the exposure, irregular hours, impairment of health, encountering contagious maladies and raging epidemics, witnessing painful scenes, suffering and death, and the moral and legal responsibilities incurred; all bear heavily upon the practitioner, and can find no adequate compensation, even though the tax were removed, and the ordinary fees allowed in all cases.

We, therefore, respectfully petition your Honorable body to abolish the specific tax, and extend such relief to the poor and the medical profession in the matter under consideration, as wisdom and justice may suggest to the patriotic Representatives of a great State. And we feel well assured that such legislation so obviously necessary, so manifestly just and proper, and so highly called for by the growing philanthropy and benevolence of the present age, cannot fail to meet the sanction of a liberal and enlightened constituency.

☞ See interesting advertisement of Medical and Scientific Books, Mineral Specimens, etc., by Prof. A. E. Foote, M.D., of Philadelphia.

MEDICAL BOOKS.—We ask attention to advertisement of Messrs. Lynch & Thornton, book merchants of Atlanta.

RECEIPTED.—1879: W. H. Wilson; Thos. J. Hinsley; H. T. Sheill; E. B. Toungells; C. C. Hart; J. S. Hamilton; T. S. Fox; C. G. Nichols; E. L. Speer; Amos Whidby; James Joyner; R. L. Loamax; T. T. Rodman; K. Smith; J. Hodson; M. Malona; T. T. Farmer; Robert Lake; B. Asbury; S. G. Morley; Wooley B. M.—1878: Joseph Jones; T. B. Lanier.